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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,820	06/27/2005	Lutz Kirsten	14219-068US1	8847

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EXAMINER	
BAISA, JOSELITO SASIS	

ART UNIT	PAPER NUMBER
2832	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,820	KIRSTEN, LUTZ	
	Examiner	Art Unit	
	Joselito Baisa	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/20/2007 and 6/30/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's arguments, see Remarks, Page 1, filed 25 September 2007, with respect to Claims 1-19 have been fully considered and are persuasive. The Restriction Requirement under 35 U.S.C. 121 of Claims 1-19 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2 and19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al.[6911893].

Kodama discloses a base12 comprised of ceramic layers 14 and electrode layers 16, the electrode layers 16 separating adjacent ceramic layers 14, the ceramic layers 14 comprising a ceramic material that has a positive temperature coefficient ; and a first collector electrode 18a attached to a first side of the electrical component and a second collector electrode 18b attached to a second side of the electrical component, wherein the first collector electrode 18a and the second collector electrode 18b contact alternate electrode layers 16; wherein the electrical component has a volume V and resistance R, the resistance R being measured between collector electrodes at a temperature of between 0° C and 40° C (room temperature) and wherein $V \cdot R < 600$ $\Omega \cdot mm^3$ [see Table I] [Col. 3, Lines 1-15, Figure 1].

With regards to volume /resistance relationship to be less than 600 $\Omega \cdot mm^3$, Table I shows the PTC thermistor of Kodama used on printed circuit board, although not shown in $\Omega \cdot mm^3$, has a value less than 600 ohms.

Regarding claim 2, Kodama discloses the ceramic material comprises ceramic green sheets 14 being sintered with the electrode layers 16 to form the base 12 [Col. 2, Lines 53-65, Figure 1].

Regarding claim 19, Kodama discloses the PTC resistor element is SMD-capable [Col. 3, Lines 12-14].

Claims 3-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al. as applied to claim 1 above, and further in view of Ito et al. [6522237].

Regarding claims 3-6, Kodama discloses the instant claimed invention discussed above except for at least some of the electrode layers comprise tungsten compound (tungsten carbide or WO) that contains tungsten having a valence less than +6.

Ito discloses electrode layers comprise tungsten compound (tungsten combined with neutral atmosphere or oxidative atmosphere) [Col. 4, Lines 45-50] and [Col. 9, Lines 10-15].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use electrode layers comprising tungsten compound as taught by Ito to the thermistor of Kodama.

The motivation would have been for easy bonding of the ceramic and the electrode layers through sintering [Col. 3, Lines 5-18].

Regarding claims 6-18, Kodama discloses forming the base 12 using ceramic layers 14 interspersed with electrode layer 16 through sintering in a reducing atmosphere [Col. 3, Lines 1-15].

Kodama discloses the instant claimed invention discussed above except for removing a binder in an environment having oxygen content that is lower than an oxygen content of the air performed at <600 °C; sintering performed at temperature between 1000°C and 1200°C.

Ito discloses removing a binder in an environment having oxygen content (that is lower than an oxygen content of the air performed at <600 °C; sintering performed at temperature between 200°C and 1200° C [Col. 9, Lines 10-25].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the method of removing the binder and sintering the structure as taught by Ito to the device of Kodama.

The motivation would have been for easy bonding of the ceramic and the electrode layers through sintering [Col. 3, Lines 5-18].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joselito Baisa
Examiner
Art Unit 2832

jsb

ELVIN ENAD
SUPERVISORY PATENT EXAMINER